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EXAMINER

NAGPAUL, JYOTI

ART UNIT PAPER NUMBER

1743

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/714,889

Applicant(s)

TOI ET AL.

Examiner

Jyoti Nagpaul

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 6-18 is/are rejected.
- 7) ☒ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants recite, "dispensing tip arrangement calculating means for calculating an arrangement of the dispensing tips in the dispensing tip container based on information contained in the one or more processes input into the control device". It is unclear as to what the applicants are referring to. What does the arrangement of the dispensing tips in the dispensing tip container have anything to do with a dispensing tip arrangement calculating means? What is being calculated? What is the corresponding structure for achieving this function? This is unclear and vague. Clarification is needed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 1-2 and 6-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano (US 6006800) in view of Mezei (US 4586546).

Nakano teaches an automated liquid handling system. The system comprises a dispensing tip container (2) having a plurality of holding portions for holding a plurality of dispensing tips (44) and a dispensing head (21) having attachment portions (see

Figures 2 and 3) for attaching at least one dispensing tip (44) selected from the plurality of dispensing tips (44). The dispensing head (21) is capable of performing sucking and expelling operations for sucking liquid in or expelling liquid out from the one or more dispensing tips (44). The system further comprises moving means (11) for moving the dispensing head (21) and a reagent container (3) that holds at least one reagent. The system further comprises a microplate (4) with a plurality of wells for holding specimen. Nakano further teaches the plurality of wells is formed in the microplate (4) in a matrix defined by rows and columns. The moving means moves the dispensing head (21) in a three-dimensional space defined by X, Y and Z-axis. (See Col. 4, Lines 50-61) The moving means further swivel the dispensing head (21) in a plane defined by the X-axis and Y-axis.

Nakano fails to teach a control device that controls the sucking and expelling operations performed by the dispensing head and controls the moving means to control movements of the dispensing head. Nakano also fails to teach the control device having input means for inputting one or more processes to be executed by the dispensing head. Nakano fails to teach a dispensing tip arrangement calculating means for calculating an arrangement of the dispensing tips in the dispensing tip container based on information contained in the one or more processes input into the control device. Nakano fails to teach another reagent container holding plural kinds of reagents being held separately in a plurality of elongated container portions. Nakano further fails to teach another dispensing tip container for holding dispensing tips. Nakano fails to teach a reagent calculating means for calculating a volume of reagent to be dispensed

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into the wells of the microplate based on information contained in the one or more processes input by the control device. Nakano further fails to teach a display for indicating the volume of the reagent calculated by the reagent volume calculating means. Nakano further fails to teach storage means for storing the volume of the reagent calculated the reagent volume calculating means.

Mezei teaches an automated liquid handling device and method. The device comprises a control device (30) that controls the sucking and expelling operation performed by a dispensing head (14) and also controls the moving means to control movements of the dispensing head (14). The control device (30) further includes input means/circuit means for inputting one or more processes to be executed by the dispensing head (14). Mezei further teaches electronic process elements of a microprocessor operates to determine, from information concerning the initial and handled volumes in a receptacle/reagent calculating means, and the amount of pipette tip immersion and offset, the number of digitized impulses to be supplied to the stepper motor for positioning the tips at the desired level in a receptacle of a selected well/calculated tip position that is equivalent to the claimed dispensing tip arrangement calculating means. (See Col. 6, Lines 36-68) Mezei teaches a reagent calculating means for calculating a volume of reagent to be dispensed into the wells of the microplate (80) based on information contained in the one or more processes input by the control device (30). (See Col. 6, Lines 15-68) Mezei further teaches information regarding a dispensing direction on a microwell plate to dispense the reagent in the wells and information regarding a range of wells on each of the rows or columns of the

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microplate into which the reagent is dispensed. (See Col. 5, Lines 31-68) (See Col. 6, Lines 4-35) Mezei teaches a flow chart or graphs for indicating the volume of the reagent calculated by the reagent volume calculating means. (See Figures 7-8) Mezei teaches storage means/microprocessor for storing volume of the reagent calculated by the reagent calculated by the reagent volume calculating means.

It would have been obvious to one of ordinary skill in the art to provide a control device that controls the sucking and expelling operation performed by the dispensing head of Nakano for the predictable result of increasing the efficiency between the delivery time of more than one or more wells being assayed and thus increasing the efficiency of the overall process.

It would have been obvious to one of ordinary skill in the art to provide a dispensing tip arrangement calculating means for calculating an arrangement of the dispensing tips in the dispensing tip container based on information contained in the one or more processes input into the control device for the predictable result of increasing accuracy and precision of the dispensing tips during operation.

It would have been obvious to one of ordinary skill in the art to provide another reagent container for holding plural kinds of reagents that are being held separately in a plurality of elongated container portions to the system of Nakano for the predictable result of decreasing the time for replenishing the used reagents in the first reagent container and using the other container and thus increasing the efficiency of the overall process.

It would have been obvious to one of ordinary skill in the art to provide another dispensing tip container to the system of Nakano for the predictable result of decreasing the time for replenishing the tips on the first container and thus increasing the efficiency of the overall process.

It would have been obvious to one of ordinary skill in the art to provide a reagent calculating means for calculating a volume of reagent to be dispensed into the wells of the microplate based on information contained in the one or more processes input by the control device to the system of Nakano for the predictable result of increasing accuracy and precision of reagent volume transfer to the selected wells.

It would have been obvious to one of ordinary skill in the art to provide a display for each of process in different colors for indicating the volume of the reagent calculated by the reagent volume calculating means to the system of Nakano for the predictable result of assisting the user or operator for a visual display of the volume being used or displaced during operation.

Allowable Subject Matter

8. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art fails to teach a display for indicating an arrangement of the dispensing tips calculated by the dispensing tip arrangement calculating means. Examiner notes that the independent claim 1, rejected base claim, has been rejected under 35 U.S.C. 112, 2nd paragraph as set forth above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Nagpaul whose telephone number is 571-272-1273. The examiner can normally be reached on Monday thru Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JN



**LYLE A. ALEXANDER
PRIMARY EXAMINER**